Comfort Glow®

YELLOW FLAME DESIGN UNVENTED (VENT-FREE) NATURAL GAS LOG HEATER

— Also Designed Certified as Vented Decorative Appliance —

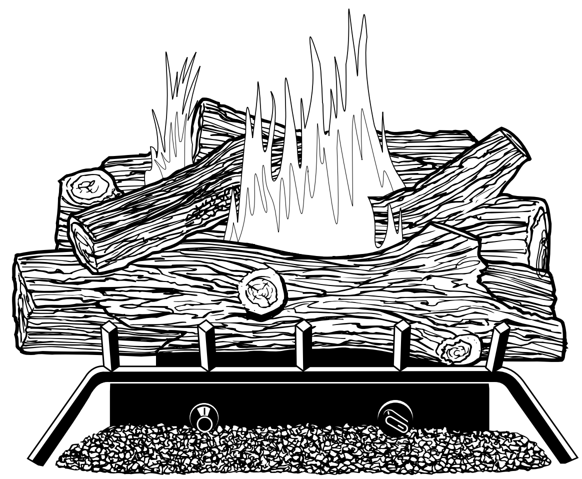
This appliance may be installed in an aftermarket* manufactured (mobile) home, where not prohibited by state or local codes.

*** Aftermarket: Completion of sale, not for purpose of resale, from the manufacturer**

OWNER'S OPERATION AND INSTALLATION MANUAL

24" Variable Manually-Controlled Model

CGD3924N



DESIGN AMERICAN GAS ASSOCIATION CERTIFIED

WARNING: If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury, or loss of life.

- **Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.**
- **WHAT TO DO IF YOU SMELL GAS**
  - **Do not try to light any appliance.**
  - **Do not touch any electrical switch; do not use any phone in your building.**
  - **Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.**
  - **If you cannot reach your gas supplier, call the fire department.**
- **Installation and service must be performed by a qualified installer, service agency, or the gas supplier.**

WARNING: Improper installation, adjustment, alteration, service, or maintenance can cause injury or property damage. Refer to this manual for correct installation and operational procedures. For assistance or additional information consult a qualified installer, service agency, or the gas supplier.

WARNING: This gas log set is for installation in a masonry solid fuel burning fireplace or a U.L. listed manufactured solid fuel burning fireplace.

WARNING: This is an unvented gas-fired heater. It uses air (oxygen) from the room in which it is installed. Provisions for adequate combustion and ventilation air must be provided. Refer to *Air for Combustion and Ventilation* section in this manual.

Save this manual for future reference.

CONTENTS

SECTION	PAGE

SAFETY INFORMATION

⚠ WARNINGS

IMPORTANT: Read this owner's manual carefully and completely before trying to assemble, operate, or service this heater. Improper use of this heater can cause serious injury or death from burns, fire, explosion, electrical shock, and carbon monoxide poisoning.

⚠ DANGER

Carbon monoxide poisoning may lead to death!

Carbon Monoxide Poisoning: Early signs of carbon monoxide poisoning resemble the flu, with headaches, dizziness, or nausea. If you have these signs, the heater may not be working properly. **Get fresh air at once!** Have heater serviced. Some people are more affected by carbon monoxide than others. These include pregnant women, people with heart or lung disease or anemia, those under the influence of alcohol, and those at high altitudes.

Natural Gas: Natural gas is odorless. An odor-making agent is added to the gas. The odor helps you detect a gas leak. However, the odor added to the gas can fade. Gas may be present even though no odor exists.

Make certain you read and understand all Warnings. Keep this manual for reference. It is your guide to safe and proper operation of this heater.

Safety Information continues on next page

⚠ WARNINGS *Continued*

WARNING: Any change to this heater or its controls can be dangerous.

1. This appliance is only for use with the type of gas indicated on the rating plate. This appliance is not convertible for use with other gases.
2. If you smell gas
   - shut off gas supply
   - do not try to light any appliance
   - do not touch any electrical switch; do not use any phone in your building
   - immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions
   - if you cannot reach your gas supplier, call the fire department
3. This heater shall not be installed in a bedroom or bathroom.
4. Never install the heater
   - in a recreational vehicle
   - where curtains, furniture, clothing, or other flammable objects are less than 36 inches from the front, top, or sides of the heater
   - in high traffic areas
   - in windy or drafty areas
5. Before installing in a solid fuel burning fireplace, the chimney flue and firebox must be cleaned of soot, creosote, ashes and loose paint by a qualified chimney cleaner. Creosote will ignite if highly heated. Inspect chimney flue for damage. If damaged, operate heater with flue damper closed.
6. If fireplace has glass doors, never operate this heater with glass doors closed. If you operate heater with doors closed, heat buildup inside fireplace will cause glass to burst. Also if fireplace opening has vents at the bottom, you must open the vents before operating heater.
7. You must operate this heater with a fireplace screen in place. Make sure fireplace screen is closed before running heater.
8. This log heater is designed to be smokeless. If logs ever appear to smoke, turn off heater and call a qualified service person. *Note:* During initial operation, slight smoking could occur due to log curing and heater burning manufacturing residues.
9. Do not allow fans to blow directly into the fireplace. Avoid any drafts that alter burner flame patterns. Ceiling fans can create drafts that alter burner flame patterns. Altered burner patterns can cause sooting.
10. Do not use a blower insert, heat exchanger insert or other accessory not approved for use with this heater.
11. This heater needs fresh, outside air ventilation to run properly. This heater has an oxygen depletion sensor (ODS) pilot light safety system. The ODS shuts down the heater if not enough fresh air is available. See *Air for Combustion and Ventilation*, pages 5 through 7. If heater keeps shutting off, see *Troubleshooting*, pages 25 through 28.
12. Do not run heater
    - where flammable liquids or vapors are used or stored
    - under dusty conditions
13. Do not use this heater to cook food or burn paper or other objects.
14. Never place any objects on the heater.
15. Heater base assembly becomes very hot when running heater. Keep children and adults away from hot surface to avoid burns or clothing ignition. Heater will remain hot for a time after shut-down. Allow surface to cool before touching.
16. Carefully supervise young children when they are in the room with heater.
17. Do not use heater if any part has been exposed to or under water. Immediately call a qualified service technician to inspect the room heater and to replace any part of the control system and any gas control which has been under water.
18. Do not operate heater if any log is broken. Do not operate heater if a log is chipped (dime-sized or larger).
19. Turn heater off and let cool before servicing. Only a qualified service person should service and repair heater.
20. Operating heater above elevations of 4,500 feet could cause pilot outage.

PRODUCT IDENTIFICATION

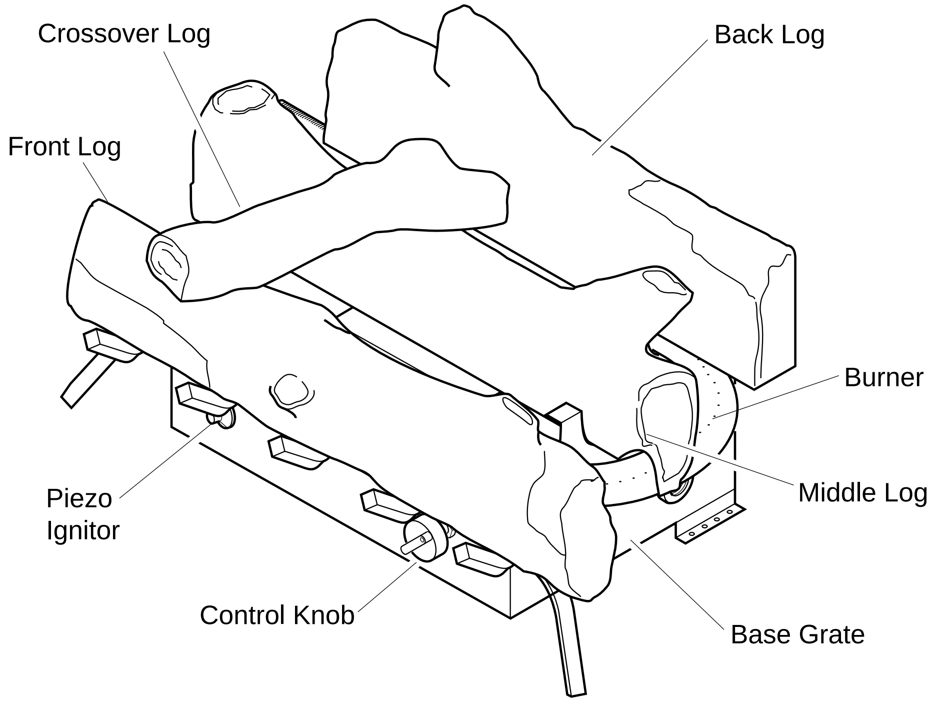


Figure 1 - Vent-Free Gas Log Heater

LOCAL CODES

Install and use heater with care. Follow all local codes. In the absence of local codes, use the latest edition of The National Fuel Gas Code ANSI Z223, also known as NFPA 54*.

*Available from: American National Standards Institute, Inc.
1430 Broadway
New York, NY 10018

National Fire Protection Association, Inc.
Batterymarch Park
Quincy, MA 02269

UNPACKING

1. Remove logs and heater base assembly from carton. *Note:* Do not pick up heater base assembly by burners. This could damage heater. Always handle base assembly by grate.
2. Remove all protective packaging applied to logs and heater for shipment.
3. Check all items for any shipping damage. If damaged, promptly inform dealer where you bought heater.

PRODUCT FEATURES

Operation

This heater is clean burning. It requires no outside venting. There is no heat loss out a vent or up a chimney. Heat is generated by realistic dancing, yellow flames. This heater is designed for vent-free operation with flue damper closed. State and local codes in some areas prohibit the use of vent-free heaters. You can operate heater as a vented product by opening flue damper.

Safety Device

This heater has a pilot with an Oxygen Depletion Sensor Shutoff System (ODS). The ODS/pilot is a required feature for vent-free room heaters. The ODS/pilot shuts off the heater if there is not enough fresh air.

Piezo Ignition System

This heater has a piezo ignitor. This system requires no matches, batteries, or other sources to light heater.

AIR FOR COMBUSTION AND VENTILATION

WARNING

This heater shall not be installed in a confined space unless provisions are provided for adequate combustion and ventilation air. Read the following instructions to insure proper fresh air for this and other fuel-burning appliances in your home.

Today's homes are built more energy efficient than ever. New materials, increased insulation, and new construction methods help reduce heat loss in homes. Home owners weather strip and caulk around windows and doors to keep the cold air out and the warm air in. During heating months, home owners want their homes as airtight as possible.

While it is good to make your home energy efficient, your home needs to breathe. Fresh air must enter your home. All fuel-burning appliances need fresh air for proper combustion and ventilation.

Exhaust fans, fireplaces, clothes dryers, and fuel burning appliances draw air from the house to operate. You must provide adequate fresh air for these appliances. This will insure proper venting of vented fuel-burning appliances.

PROVIDING ADEQUATE VENTILATION

The following is exerpts from *National Fuel Gas Code. NFPA 54/ANSI Z223.1, Section 5.3, Air for Combustion and Ventilation.*

All spaces in homes fall into one of the three following ventilation classifications: 1. Unusually Tight Contruction; 2. Unconfined Space; 3. Confined Space.

The information on pages 5 through 7 will help you classify your space and provide adequate ventilation.

Unusually Tight Construction

The air that leaks around doors and windows may provide enough fresh air for combustion and ventilation. However, in buildings of unusually tight construction, you must provide additional fresh air.

Unusually tight construction is defined as construction where:

a. walls and ceilings exposed to the outside atmosphere have a continuous water vapor retarder with a rating of one perm or less with openings gasketed or sealed *and*

b. weather stripping has been added on openable windows and doors *and*

c. caulking or sealants are applied to areas such as joints around window and door frames, between sole plates and floors, between wall-ceiling joints, between wall panels, at penetrations for plumbing, electrical, and gas lines, and at other openings.

If your home meets all of the three criteria above, you must provide additional fresh air. See *Ventilation Air From Outdoors*, page 7.

If your home does not meet all of the three criteria above, proceed to page 6.

Unconfined Space

The *National Fuel Gas Code, ANSIZ223.1, 1992, Section 5.3* defines unconfined space as having a minimum air volume of 50 cubic feet (127 cubic cm) for each 1000 Btu/Hr input rating of all appliances in the space (cubic feet equals length x width x height of space). Include adjoining rooms only if there are doorless passageways or ventilation grills between the rooms.

Confined Space

The *National Fuel Gas Code, ANSIZ223.1, 1992, Section 5.3* defines confined space as having an air volume of less than 50 cubic feet (127 cubic cm) for each 1000 Btu/Hr input rating of all appliances in the space (cubic feet equals length x width x height of space). Include adjoining rooms only if there are doorless passageways or ventilation grills between the rooms.

Continued

AIR FOR COMBUSTION AND VENTILATION

Continued

DETERMINING AIR FLOW FOR HEATER LOCATION

Determining if You Have a Confined or Unconfined Space

Use this work sheet to determine if you have a confined or unconfined space.

Space: Includes the room in which you will install heater plus any adjoining rooms with doorless passageways or ventilation grills between the rooms.

1. Determine the volume of the space (length x width x height).

   Length x Width x Height = ___________________ cu. ft. (volume of space)

   Example: Space size 20 ft. (length) x 16 ft. (width) x 8 ft. (ceiling height) = 2560 cu. ft. (volume of space)

   If additional ventilation to adjoining room is supplied with grills or openings, add the volume of these rooms to the total volume of the space.

2. Divide the space volume by 50 cubic feet to determine the maximum Btu/Hr the space can support.

   ____________ (volume of space) ÷ 50 cu. ft. = (Maximum Btu/Hr the space can support)

   Example: 2560 cu. ft. (volume of space) ÷ 50 cu. ft. = 51.2 or 51,200 (maximum Btu/Hr the space can support)

3. Add the Btu/Hr of all fuel burning appliances in the space.

Vent-free heater		___________________	Btu/Hr
Gas water heater*		___________________	Btu/Hr
Gas furnace		___________________	Btu/Hr
Vented gas heater		___________________	Btu/Hr
Gas fireplace logs		___________________	Btu/Hr
Other gas appliances*	+	___________________	Btu/Hr
Total	=	___________________	Btu/Hr

Example:

Gas water heater		40,000	Btu/Hr
Vent-free heater	+	39,000	Btu/Hr
Total	=	79,000	Btu/Hr

   * Do not include direct-vent gas appliances. Direct-vent draws combustion air from the outdoors and vents to the outdoors.

4. Compare the maximum Btu/Hr the space can support with the actual amount of Btu/Hr used.

   _________________ Btu/Hr (maximum the space can support)

   _________________ Btu/Hr (actual amount of Btu/Hr used)

   Example: 51,200 Btu/Hr (maximum the space can support)

   79,000 Btu/Hr (actual amount of Btu/Hr used)

The space in the above example is a confined space because the actual Btu/Hr used is more than the maximum Btu/Hr the space can support. You must provide additional fresh air. Your options are as follows:

A. Rework worksheet, adding the space of an adjoining room. If the extra space provides an unconfined space, remove door to adjoining room or add ventilation grills between rooms. See *Ventilation Air From Inside Building,* page 7.

B. Vent room directly to the outdoors. See *Ventilation Air From Outdoors,* page 7.

C. Install a lower Btu/Hr heater, if lower Btu/Hr size makes room unconfined.

If the actual Btu/Hr used is less than the maximum Btu/Hr the space can support, the space is an unconfined space. You will need no additional fresh air ventilation.

AIR FOR COMBUSTION AND VENTILATION

Continued

WARNING

If the area in which the heater may be operated is smaller than that defined as an unconfined space, provide adequate combustion and ventilation air by one of the methods described in the *National Fuel Gas Code, ANSI Z223.1, 1992, Section 5.3.*

VENTILATION AIR

Ventilation Air From Inside Building

This fresh air would come from an adjoining unconfined space. When ventilating to an adjoining unconfined space, you must provide two permanent openings: one within 12" of the ceiling and one within 12" of the floor on the wall connecting the two spaces (see options 1 and 2, Figure 2). You can also remove door into adjoining room (see option 3, Figure 2). Follow the *National Fuel Gas Code NFPA 54/ANSI Z223.1, Section 5.3, Air for Combustion and Ventilation* for required size of ventilation grills or ducts.

WARNING

Rework worksheet, adding the space of the adjoining unconfined space. The combined spaces must have enough fresh air to supply all appliances in both spaces.

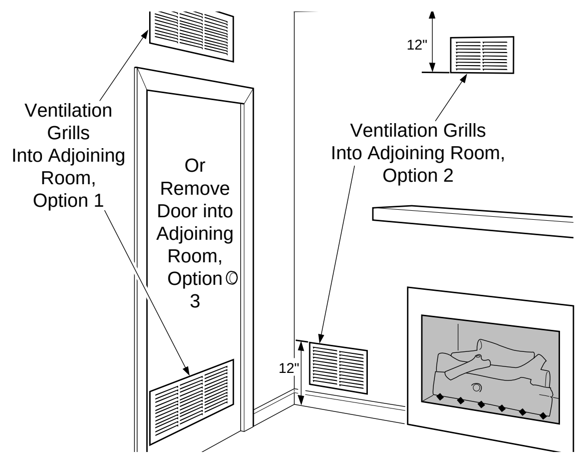


Figure 2 - Ventilation Air from Inside Building

Ventilation Air From Outdoors

Provide extra fresh air by using ventilation grills or ducts. You must provide two permanent openings: one within 12" of the ceiling and one within 12" of the floor. Connect these items directly to the outdoors or spaces open to the outdoors. These spaces include attics and crawl spaces.

IMPORTANT: Do not provide openings for inlet or outlet air into attic if attic has a thermostat-controlled power vent. Heated air entering the attic will activate the power vent.

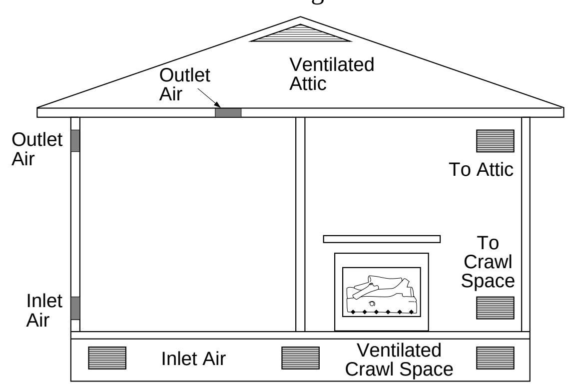


Figure 3 - Ventilation Air from Outdoors

INSTALLING

NOTICE

A qualified service person must install heater. Follow all local codes.

NOTICE

State or local codes may only allow operation of this appliance in a vented configuration. Check your state or local codes.

WARNING

Before installing in a solid fuel burning fireplace, the chimney flue and firebox must be cleaned of soot, creosote, ashes and loose paint by a qualified chimney cleaner. Creosote will ignite if highly heated. Inspect chimney flue for damage. If damaged, operate heater with flue damper closed.

WARNING

Seal any fresh air vents or ash clean-out doors located on floor or wall of fireplace. If not, drafting may cause pilot outage or sooting. Use a heat-resistant sealant. Do not seal chimney flue damper.

WARNING

Never install the heater

- **in a bedroom or bathroom**
- **in a recreational vehicle**
- **where curtains, furniture, clothing, or other flammable objects are less than 36 inches from the front, top, or sides of the heater**
- **in high traffic areas**
- **in windy or drafty areas**

CAUTION

This heater creates warm air currents. These currents move heat to wall surfaces next to heater. Installing heater next to vinyl or cloth wall coverings or operating heater where impurities in the air (such as tobacco smoke) exist, may discolor walls.

IMPORTANT: Vent-free heaters add moisture to the air. Although this is beneficial, installing heater in rooms without enough ventilation air may cause mildew to form from too much moisture. See *Air for Combustion and Ventilation*, pages 5 through 7.

CHECK GAS TYPE

Use only natural gas. If your gas supply is not natural gas, do not install heater. Call dealer where you bought heater for proper type heater.

INSTALLATION AND CLEARANCES (Vent-Free Operation Only)

WARNING
Maintain the minimum clearances. If you can, provide greater clearances from floor, ceiling, and adjoining wall.

MINIMUM FIREPLACE CLEARANCE TO COMBUSTIBLE MATERIALS		
Log Size	**Side Wall**	**Ceiling**
24"	16"	42"

LOG SIZING REQUIREMENTS			
Log Size	**Minimum Firebox Size**		
	Height	**Depth**	**Front Width**
24"	**17"**	**14"**	**26"**

Carefully follow the instructions below. This will ensure safe installation into a masonry or U.L. listed manufactured fireplace.

Minimum Wall and Ceiling Clearances (see Figure 4)

A. Clearances from the side of the fireplace opening to any combustible wall should not be less than 16 inches.

B. Clearances from the top of the fireplace opening to the ceiling should not be less than 42 inches.

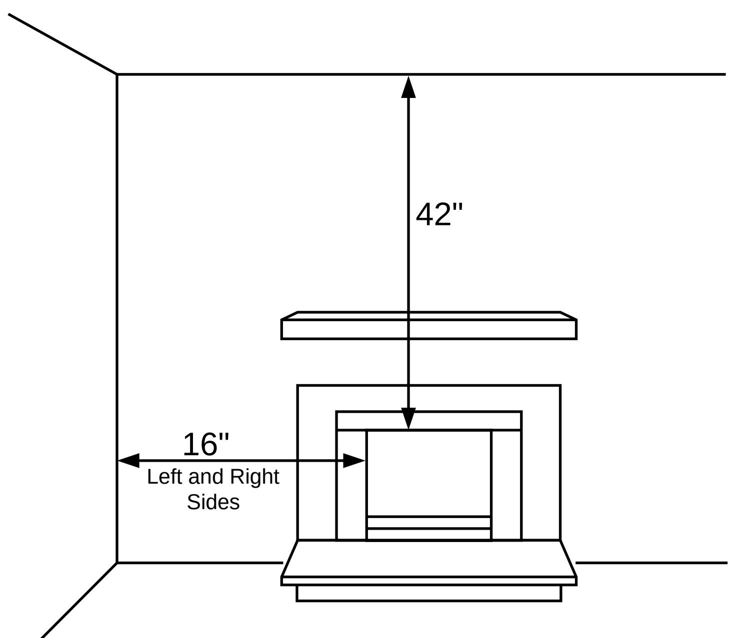


Figure 4 - Minimum Clearance to Wall and Ceiling

Continued

NOTICE

You may use this heater as a vented product. If so, you must always run heater with chimney flue damper open. If running heater with damper open, non-combustible material above fire-place opening is not needed. Go to *Installing Damper Clamp Accessory for Vented Operation,* page 13.

Minimum Non Combustible Material Clearances

If Not Using Mantel

Note: If using a mantel, go to page 11. If not using a mantel, follow the information on this page.

You must have non combustible material(s) above the fireplace opening. Non combustible materials (such as slate, marble, tile, etc.) must be at least 1/2 inch thick. With sheet metal, you must have non combustible material behind it. Non combustible material must extend at least 8" up. If non combustible material is less than 12", you must install the fireplace hood accessory. See chart below and Figure 5 for minimum clearances.

IMPORTANT: If you cannot meet these minimum clearances, you must operate heater with chimney flue damper open. Go to *Installing Damper Clamp Accessory for Vented Operation,* page 13.

Non-Combustible Material Distance (A)	Requirements for Safe Installation
12" or more	Non combustible material OK.
Between 8" and 12"	Install fireplace hood acessory (GA6050 or GA6052, see *Accessories,* page 29).
Less than 8"	Non-combustible material must be extended to at least 8". See *Between 8" and 12",* above. If you cannot extend material, you must operate heater with flue damper open.

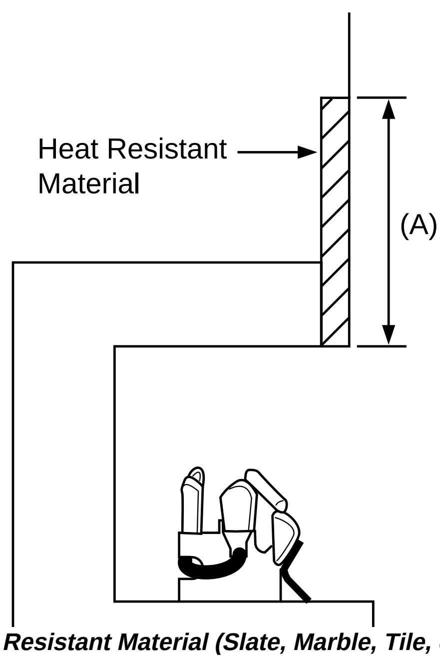


Figure 5 - Heat Resistant Material (Slate, Marble, Tile, etc.) Above Fireplace

Minimum Non Combustible Material Clearances

If Using Mantel

You must have non combustible material(s) above the fireplace opening. Non combustible materials (such as slate, marble, tile, etc.) must be at least 1/2 inch thick. With sheet metal, you must have non combustible material behind it. Non combustible material must extend at least 8 inches up. If non combustible material is less than 12", you must install the fireplace hood accessory. Even if non combustible material is more than 12", you may need the hood accessory to deflect heat away from your mantel shelf. See chart below and Figures 6 and 7 for minimum clearances.

IMPORTANT: If you cannot meet these minimum clearances, you must operate heater with chimney flue damper open. Go to *Installing Damper Clamp Accessory for Vented Operation*, page 13.

Non-Combustible Material Distance (A)	Requirements for Safe Installation
12" or more	Non combustible material OK.
Between 8" and 12"	Install fireplace hood acessory (GA6050 or GA6052, see *Accessories,* page 29).
Less than 8"	Non combustible material must be extended to at least 8". See *Between 8" and 12",* above. If you cannot extend material, you must operate heater with flue damper open.

Mantel Clearances

If you meet minimum clearance between mantel shelf and top of fireplace opening, a hood is not required (see Figure 6).

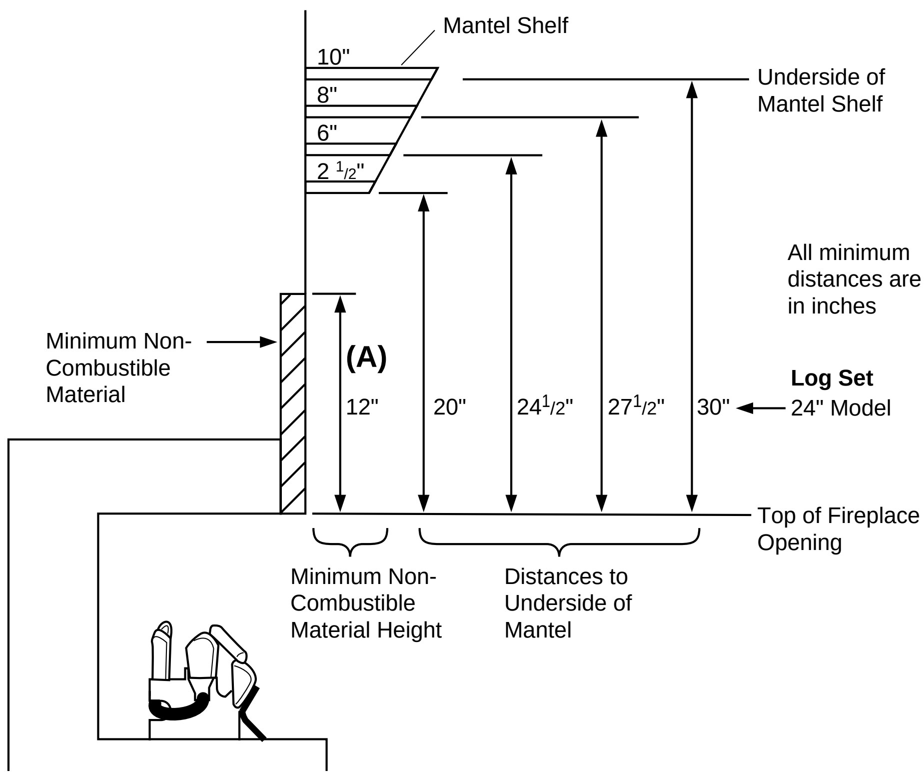


Figure 6 - Minimum Mantel Clearances Without Using Hood

If above minimum clearances are not met, you must have a hood. Follow minimum clearances shown in Figure 7 when using hood.

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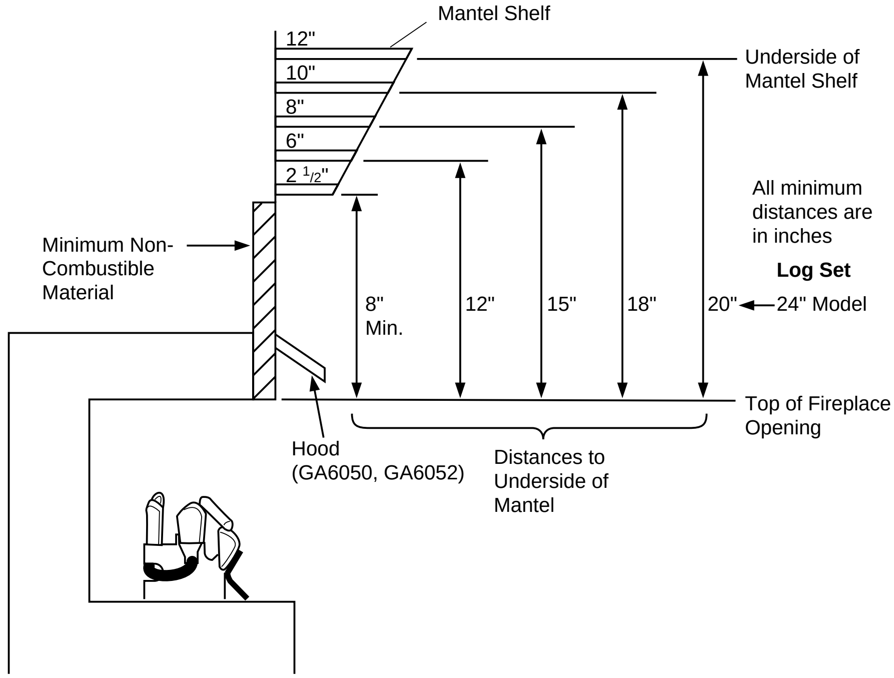


Figure 7 - Minimum Mantel Clearances When Using Hood

If your installation does not meet the above minimum clearances, you must:
- operate the logs only with the flue damper open, OR
- raise the mantel to an acceptable height, OR
- remove the mantel.

Floor Clearances

A. If installing appliance on the floor level, you must maintain the minimum distance of 14" to combustibles (see Figure 8).

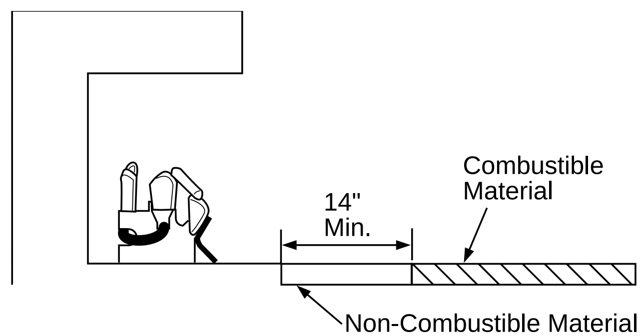


Figure 8 - Minimum Fireplace Clearances If Installed at Floor Level

B. If combustible materials are less than 14" to the fireplace, you must install appliance at least 5" above the combustible flooring (see Figure 9).

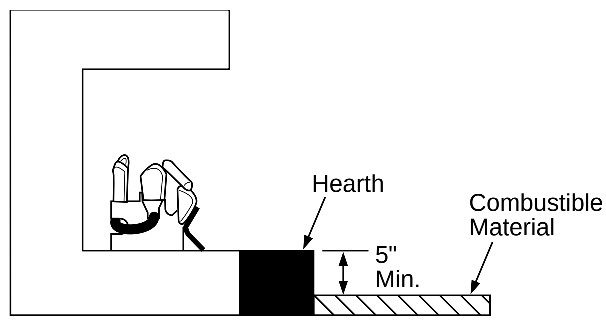


Figure 9 - Minimum Fireplace Clearances Above Combustible Flooring

INSTALLING DAMPER CLAMP ACCESSORY FOR VENTED OPERATION

Note: When used as a vented heater, appliance must be installed only in a solid-fuel burning fireplace with a working flue and constructed of non combustible material.

If your heater is a manually controlled model, you may use this heater as a vented product. There are three reasons for operating your heater in the vented mode.

1. The fireplace does not meet the clearance to combustibles requirements for vent-free operation.
2. State or local codes do not permit vent-free operation.
3. You prefer vented operation.

If reasons number 1 or 2 above apply to you, you must permanently open chimney flue damper. You must install the damper clamp accessory (to order, see *Accessories,* page 29). This will insure vented operation (see Figure 10). The damper clamp will keep damper open. Installation instructions are included with clamp accessory.

See chart below for minimum permanent flue opening you must provide. Attach damper clamp so the minimum permanent flue opening will be maintained at all times.

Area of Various Standard Round Flues	
Diameter (ins.)	**Area (sq. ins.)**
5"	20 sq. inches
6"	29 sq. inches
7"	39 sq. inches
8"	51 sq. inches

Chimney Height (ft.)	Minimum Permanent Flue Opening (sq. ins.)
6' to 15'	39 sq. inches
15' to 30'	29 sq. inches

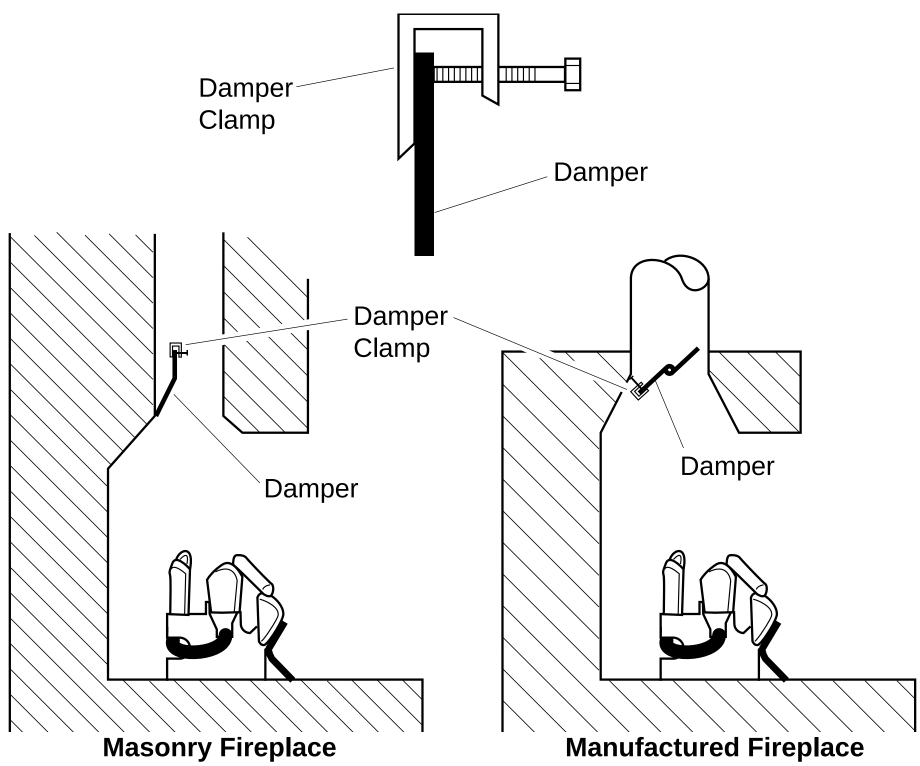


Figure 10 - Attaching Damper Clamp

INSTALLING HEATER BASE ASSEMBLY

WARNING

You must secure this heater to fireplace floor. If not, heater will move when you adjust controls. Moving heater may cause a gas leak.

WARNING

If installing in a sunken fireplace, special care is needed. You must raise the fireplace floor to allow access to heater control panel. This will insure adequate air flow and guard against sooting. Raise fireplace floor with non-combustible material. Make sure material is secure.

CAUTION

Do not pick up heater base assembly by the burner. This could damage heater. Only handle base assembly by grates.

IMPORTANT: Make sure the heater burner is level. If heater is not level, heater will not work properly.

Installation Items Needed

- hardware package (provided with heater)
- approved flexible gas hose (not provided) (if allowed by local codes)
- sealant resistant to propane (LP) gas, not provided
- electric drill with 3/16" drill bit

1. Apply pipe joint sealant lightly to male threads of the fitting to be threaded into gas regulator. Connect approved flexible gas hose to gas regulator of heater (see Figure 11, page 15).
   IMPORTANT: Hold gas regulator with wrench when connecting flexible gas hose.
2. Locate masonary screws in hardware package.
3. Position heater base assembly in fireplace.
4. Mark screw locations through holes in mounting brackets (see Figure 12, page 15). If installing in a brick-bottom fireplace, mark screw locations in mortar joint of bricks.
5. Remove heater base from fireplace.
6. Drill holes at marked locations using 3/16" drill bit.
7. Attach base assembly to fireplace floor using two masonry screws (in hardware package) (see Figure 12, page 15).
8. Connect to gas supply. See *Connecting To Gas Supply*, page 16.

INSTALLING

Continued

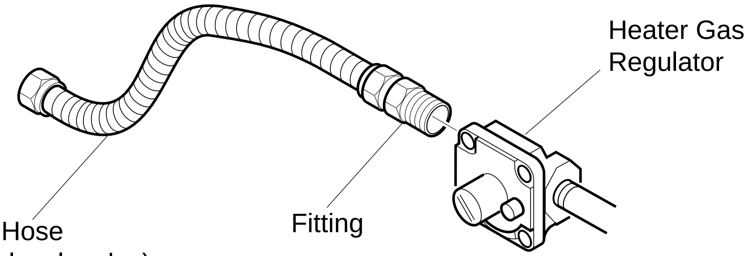


Figure 11 - Attaching Flexible Gas Hose to Heater Gas Regulator

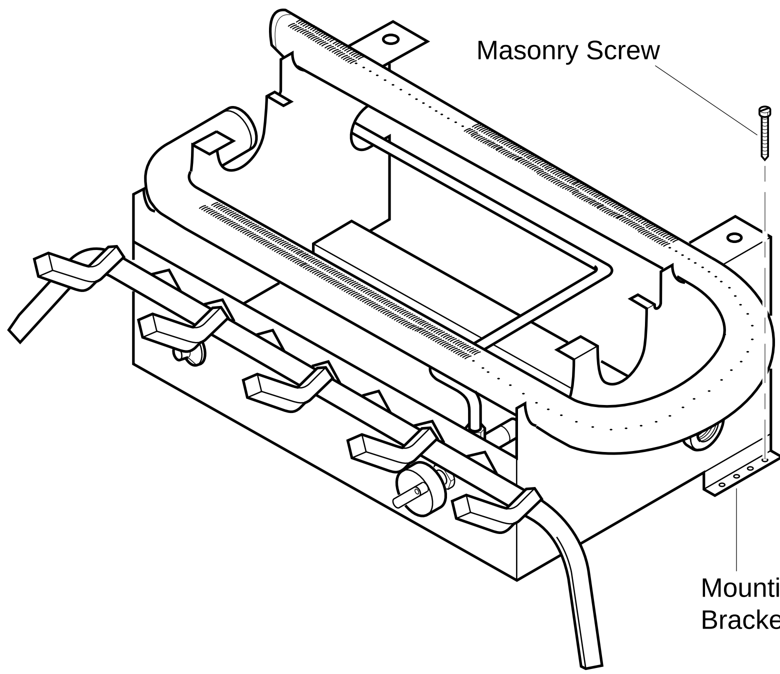


Figure 12 - Attaching Base Assembly to Fireplace Floor

INSTALLING

Continued

CONNECTING TO GAS SUPPLY

NOTICE

A qualified service person must connect heater to gas supply. Follow all local codes.

Installation Items Needed

Before installing heater, make sure you have the items listed below.

- piping (check local codes)
- sealant (resistant to LP gas)
- manual shutoff valve *
- test gauge connection *
- sediment trap
- tee joint
- pipe wrench

* An A.G.A. design-certified manual shutoff valve with 1/8" NPT tap is an acceptable alternative to test gauge connection. Purchase the optional A.G.A. design-certified manual shutoff valve from your dealer. See *Accessories*, page 29.

WARNING

Never connect heater to private (non-utility) gas wells. This gas is commonly known as well-head gas.

CAUTION

Use only new, black iron or steel pipe. Internally-tinned copper tubing may be used in certain areas. Check your local codes. Use pipe of 1/2" diameter or greater to allow proper gas volume to heater. If pipe is too small, undue loss of pressure will occur.

Installation must include a manual shutoff valve, union, and plugged 1/8" NPT tap. Locate NPT tap within reach for test gauge hook up. NPT tap must be upstream from heater (see Figure 13, page 17).

Apply pipe joint sealant lightly to male threads. This will prevent excess sealant from going into pipe. Excess sealant in pipe could result in clogged heater valves.

CAUTION

Use pipe joint sealant that is resistant to liquid petroleum (LP) gas.

Install sediment trap in supply line as shown in Figure 13, page 17. Locate sediment trap where it is within reach for cleaning. Locate sediment trap where trapped matter is not likely to freeze. A sediment trap traps moisture and contaminants. This keeps them from going into heater controls. If sediment trap is not installed or is installed wrong, heater may not run properly.

CAUTION

Avoid damage to regulator. Hold gas regulator with wrench when connecting it to gas piping and/or fittings.

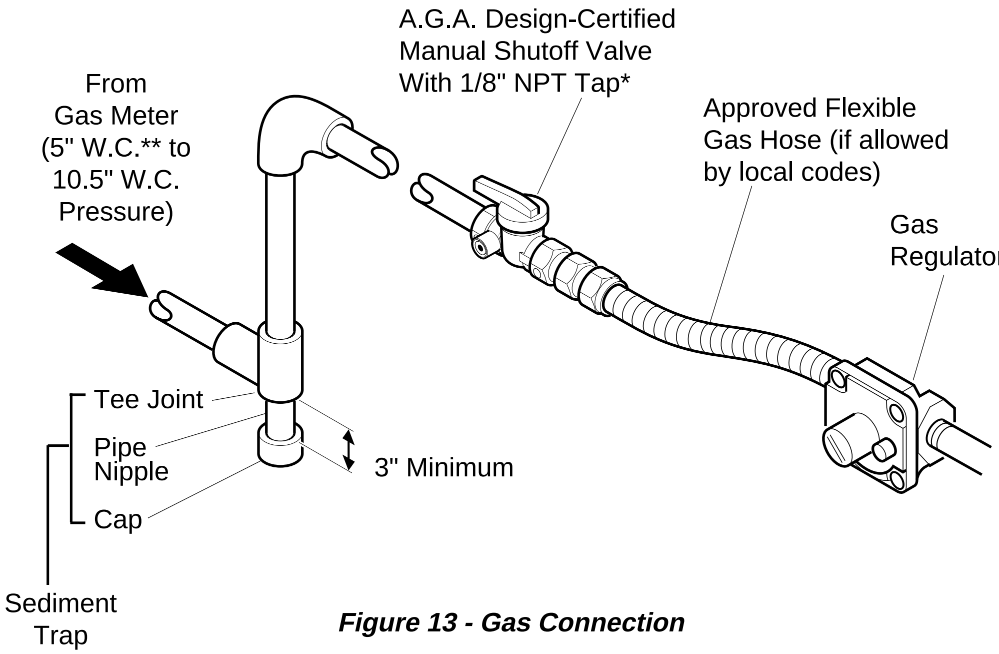


Figure 13 - Gas Connection

* Purchase the optional A.G.A. design-certified manual shutoff valve from your dealer. See *Accessories*, page 29.
** Minimum inlet pressure for purpose of input adjustment.

CHECKING GAS CONNECTIONS

WARNING

Test all gas piping and connections for leaks after installing or servicing. Correct all leaks at once.

WARNING

Never use an open flame to check for a leak. Apply a mixture of liquid soap and water to all joints. Bubbles forming show a leak. Correct all leaks at once.

Pressure Testing gas Supply Piping system

Test Pressures In Excess Of 1/2 PSIG

1. Disconnect heater and its individual manual shutoff valve from gas supply piping system. Pressures in excess of 1/2 psig will damage heater regulator.
2. Cap off open end of gas pipe where manual shutoff valve was connected.

INSTALLING

Continued

3. Pressurize supply piping system by either using compressed air or opening main gas valve located on or near gas meter.
4. Check all joints of gas supply piping system. Apply mixture of liquid soap and water to gas joints. Bubbles forming show a leak.
5. Correct all leaks at once.
6. Re-connect heater and manual shutoff valve to gas supply. Check re-connected fittings for leaks.

Test Pressures Equal To or Less Than 1/2 PSIG

1. Close manual shutoff valve (see Figure 14).
2. Pressurize supply piping system by either using compressed air or opening main gas valve located on or near gas meter.
3. Check all joints from gas meter to manual shutoff valve (see Figure 15). Apply mixture of liquid soap and water to gas joints. Bubbles forming show a leak.
4. Correct all leaks at once.

Pressure Testing Heater Gas Connections

1. Open manual shutoff valve (see Figure 14).
2. Open main gas valve located on or near gas meter.
3. Make sure control knob of heater is in the OFF position.
4. Check all joints from manual shutoff valve to control valve (see Figure 15). Apply mixture of liquid soap and water to gas joints. Bubbles forming show a leak.
5. Correct all leaks at once.
6. Light heater (see *Operating Heater*, pages 20 through 22). Check all other internal joints for leaks.
7. Turn off heater (see *To Turn Off Gas to Appliance*, page 21).

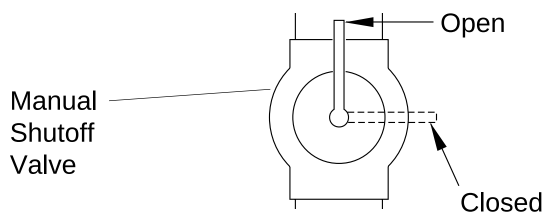


Figure 14 - Manual Shutoff Valve

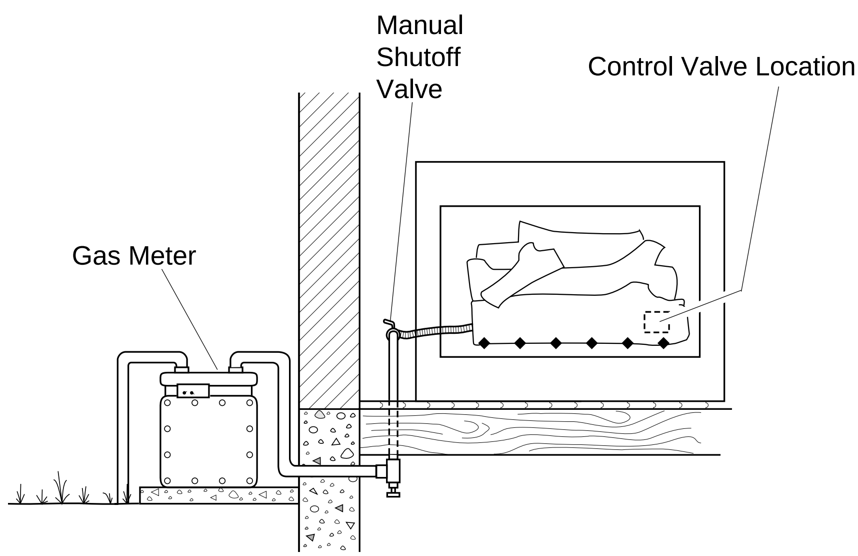


Figure 15 - Checking Gas Joints

INSTALLING

Continued

INSTALLING LOGS

WARNING

Failure to position the parts in accordance with these diagrams or failure to use only parts specifically approved with this heater may result in property damage or personal injury.

Each log is marked with a number. These numbers will help you identify the log when installing. It is very important to install these logs exactly as instructed. Do not modify logs. Only use logs supplied with heater.

1. Locate pegs on the bottom of back log (#1). Slide these pegs into the holes in the grate base behind the burner (see Figure 16).
2. Place the base of the middle log (#2) in the U-shaped slots of the grate base in front of the back log. The cutout on the right of the middle log should fit over the burner (see Figure 17). Make sure the front of the middle log is resting on the tabs of the grate base and the cutout area is centered over the burner "U" bend.
3. Locate the recesses on the back of the front log (#3). Fit these recesses between the posts of the grate base (see Figure 18).
4. Locate the notches in the bottom of the crossover log (#4). Place the crossover log on top of the middle log and front log. Make sure the notches of the cross-over log lines up with rectangular knobs on top of the middle and front logs (see Figure 19).

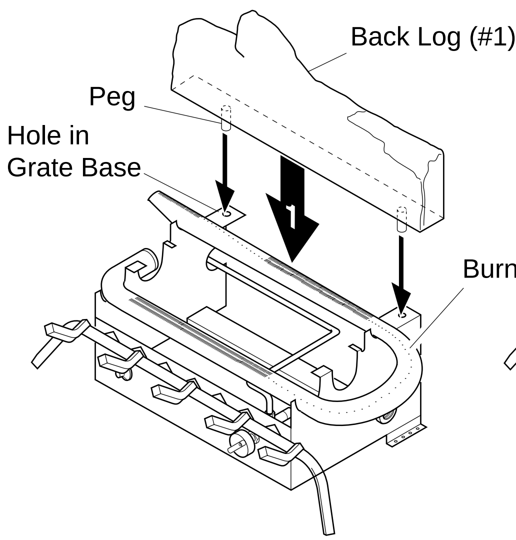


Figure 16 - Installing Back Log (#1)

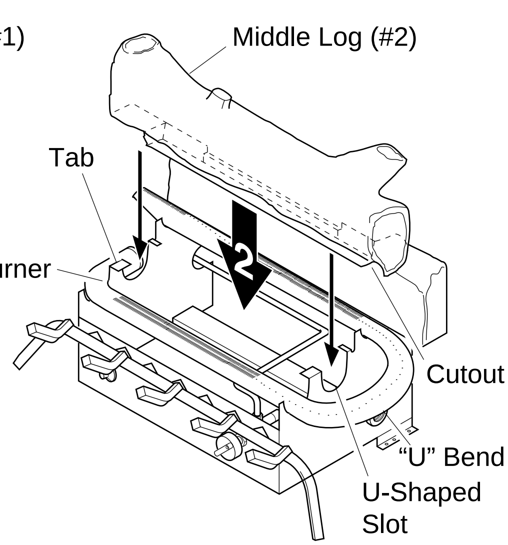


Figure 17 - Installing Middle Log (#2)

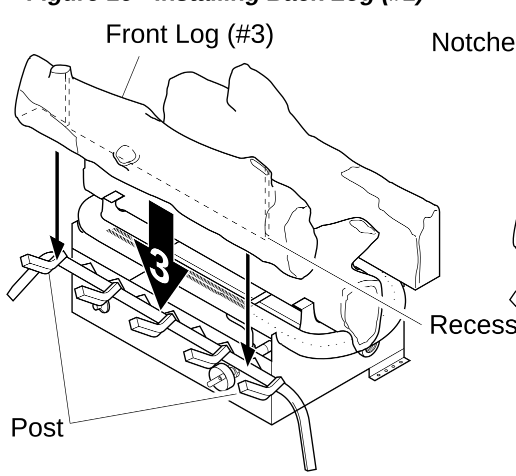


Figure 18 - Installing Front Log (#3)

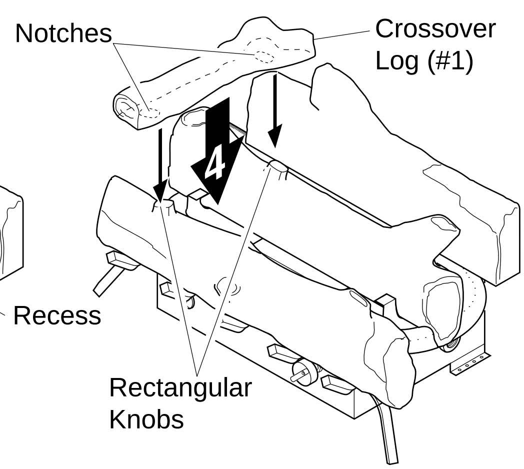


Figure 19 - Installing Crossover Log (#4)

OPERATING HEATER

FOR YOUR SAFETY READ BEFORE LIGHTING

WARNING

If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

A. This appliance has a pilot which must be lighted by hand. When lighting the pilot, follow these instructions exactly.

B. BEFORE LIGHTING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.
WHAT TO DO IF YOU SMELL GAS
- **Do not try to light any appliance.**
- **Do not touch any electric switch; do not use any phone in your building.**
- **Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.**
- **If you cannot reach your gas supplier, call the fire department.**

C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician or gas supplier. Force or attempted repair may result in a fire or explosion.

D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

LIGHTING INSTRUCTIONS

WARNING

- **If fireplace has glass doors, never operate this heater with glass doors closed. If you operate heater with doors closed, heat buildup inside fireplace will cause glass to burst. Also if fireplace opening has vents at the bottom, you must open the vents before operating heater.**
- **You must operate this heater with a fireplace screen in place. Make sure fireplace screen is closed before running heater.**

NOTICE

During initial operation of new heater, burning logs will give off a paper-burning smell. Orange flame will also be present. Open damper or window to vent smell. This will only last a few hours.

Note: **Homeowners generally prefer to operate their heater with the chimney damper closed. This will put all the heat into the room. However there may be times you will desire the full flames of the Hi heat setting but will find the heat output excessive. You can open the chimney damper (if you have one) fully or partially to release some of the heat. WARNING: Damper handle will be hot if heater has been running.**

1. **STOP! Read the safety information above.**
2. **Make sure manual shutoff valve is fully open.**
3. **Press and turn control knob clockwise to the OFF position.**

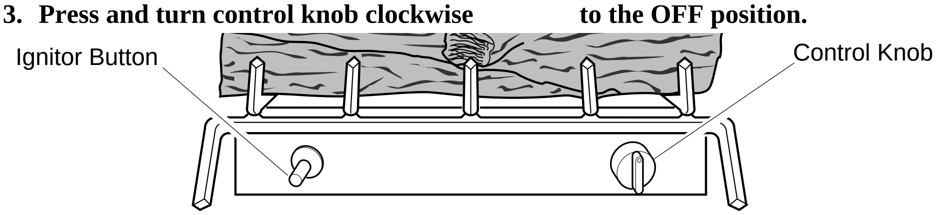


Figure 20 - Control Knob and Ignitor Button Location

4. **Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, STOP! Follow "B" in the safety information above. If you don't smell gas, go to the next step.**

OPERATING HEATER
Continued

5. **Slightly depress and turn control knob counterclockwise to the PILOT position. Press in control knob for five (5) seconds (see Page 20).**

   Note: **You may be running this heater for the first time after hooking up to gas supply. If so, the control knob may need to be pressed in for 30 seconds. This will allow air to bleed from the gas system.**

6. **With control knob pressed in, press and release ignitor button. This will light pilot. The pilot is attached to the burner. If needed, keep pressing ignitor button until pilot lights.**

   Note: **If pilot does not stay lit, contact a qualified service person or gas supplier for repairs. Until repairs are made, light pilot with match. To light pilot with match, see *Manual Lighting Procedure*, page 22.**

7. **Keep control knob pressed in for 30 seconds after lighting pilot. After 30 seconds, release control knob.**

   Note: **If pilot goes out, repeat steps 3 through 7. This heater has a safety interlock system. Wait one (1) minute for system to reset before lighting pilot again.**

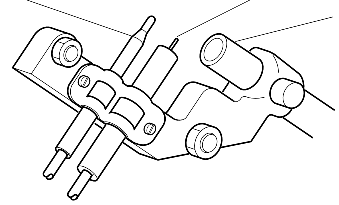


Figure 21 - Pilot

- **If control knob does not pop out when released, contact a qualified service person or gas supplier for repairs.**

8. **Slightly depress and turn control knob counterclockwise to desired heating level. The burner should light. Set control knob to any heat level between HI and LO.**

WARNING

Do not operate heater between PILOT and HIGH positions.

VARIABLE CONTROL OPERATION

The variable control valve can be set to any heat setting and flame height desired, by simply turning the control knob until that setting is attained. Even the lowest setting provides realistic, dancing yellow flames. Selecting higher settings produces greater heat output. This results in increased heating comfort.

CAUTION

Do not try to adjust heating levels by using the manual shutoff valve.

TO TURN OFF GAS TO APPLIANCE

Shutting Off Heater

1. **Press in and turn control knob clockwise to the HIGH position.**
2. **Turn control knob clockwise to the pilot position.**
3. **Press in control knob and turn clockwise to the OFF position.**

Shutting Off Burners Only (pilot stays lit)

1. **Turn control knob clockwise to the HIGH position.**
2. **Press in and turn control knob clockwise to the pilot position.**

OPERATING HEATER
Continued

MANUAL LIGHTING PROCEDURE

1. **Follow steps 1 through 5 under Lighting Instructions, pages 20 and 21.**
2. **Depress control knob and light pilot with match.**
3. **Keep control knob pressed in for 30 seconds after lighting pilot. After 30 seconds, release control knob. Now follow step 8 on page 21.**

INSPECTING BURNERS

Check pilot flame pattern and burner flame patterns often.

PILOT FLAME PATTERN

Figure 22 shows a correct pilot flame pattern. Figure 23 shows an incorrect pilot flame pattern. The incorrect pilot flame is not touching the thermocouple. This will cause the thermocouple to cool. When the thermocouple cools, the heater will shut down.

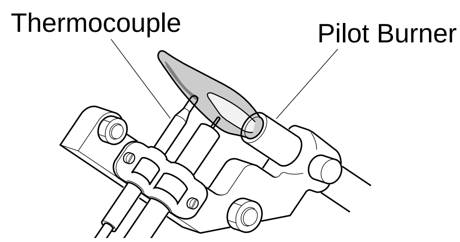


Figure 22 - Correct Pilot Flame Pattern

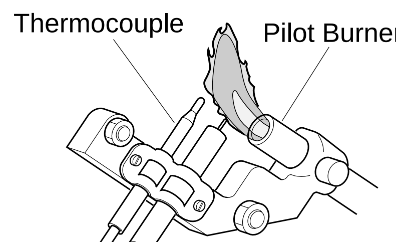


Figure 23 - Incorrect Pilot Flame Pattern

If pilot flame pattern is incorrect, as shown in Figure 23

- turn heater off (see *To Turn Off Gas to Appliance*, page 21)
- see *Troubleshooting*, pages 23 through 26

CLEANING AND MAINTENANCE

WARNING

Turn off heater and let cool before cleaning.

CAUTION

You must keep control areas, burner, and circulating air passageways of heater clean. Inspect these areas of heater before each use. Have heater inspected yearly by a qualified service person. Heater may need more frequent cleaning due to excessive lint from carpeting, bedding material, etc.

ODS/PILOT AND BURNER

- Use a vacuum cleaner or small, soft bristled brush to clean.

LOGS

- If you remove logs for cleaning, refer to *Installing Logs*, page 19, to properly replace logs.
- Replace log(s) if broken or chipped (dime-sized or larger).

TROUBLE-SHOOTING

Note: All troubleshooting items are listed in order of operation.

WARNING

Turn off and unplug heater and let cool before servicing. Only a qualified service person should service and repair heater.

CAUTION

Never use a wire, needle, or similar object to clean ODS/pilot. This can damage ODS/pilot unit.

OBSERVED PROBLEM	POSSIBLE CAUSE	REMEDY
When ignitor button is pressed, there is no spark at ODS/ pilot	1. Ignitor electrode not connected to ignitor cable	1. Reconnect ignitor cable
	2. Ignitor cable pinched or wet	2. Free ignitor cable if pinched by any metal or tubing. Keep ignitor cable dry
	3. Piezo ignitor nut is loose	3. Tighten nut holding piezo ignitor to base panel of log set. Nut is located behind base panel.
	4. Broken ignitor cable	4. Replace ignitor cable
	5. Bad piezo ignitor	5. Replace piezo ignitor
	6. Ignitor electrode broken	6. Replace piezo ignitor
	7. Ignitor electrode positioned wrong	7. Replace piezo ignitor

Continued

TROUBLE-SHOOTING

Continued

OBSERVED PROBLEM	POSSIBLE CAUSE	REMEDY
When ignitor button is pressed, there is spark at ODS/pilot but no ignition	1. Gas supply turned off or manual shutoff valve closed	1. Turn on gas supply or open manual shutoff valve
	2. Control knob not in PILOT position	2. Turn control knob to PILOT position
	3. Control knob not pressed in while in PILOT position	3. Press in control knob while in PILOT position
	4. Air in gas lines when installed	4. Continue holding down control knob. Repeat igniting operation until air is removed
	5. ODS/pilot is clogged	5. Clean ODS/pilot (see *Cleaning and Maintenance*, page 23) or replace ODS/pilot assembly
	6. Gas regulator setting is not correct	6. Replace gas regulator
ODS/pilot lights but flame goes out when control knob is released	1. Control knob not fully pressed in	1. Press in control knob fully
	2. Control knob not pressed in long enough	2. After ODS/pilot lights, keep control knob pressed in 30 seconds
	3. Manual shutoff valve not fully open	3. Fully open manual shut-off valve
	4. Pilot flame not touching thermocouple, which allows thermocouple to cool, causing pilot flame to go out. This problem could be caused by one or both of the following: A) Low gas pressure B) Dirty or partially clogged ODS/pilot	4. A) Contact local natural gas company B) Clean ODS/pilot (see *Cleaning and Maintenance*, page 23) or replace ODS/pilot assembly
	5. Thermocouple connection loose at control valve	5. Hand tighten until snug, then tighten 1/4 turn more
	6. Thermocouple damaged	6. Replace thermocouple
	7. Control valve damaged	7. Replace control valve

TROUBLESHOOTING

Continued

OBSERVED PROBLEM	POSSIBLE CAUSE	REMEDY
Burner does light after ODS/pilot is lit	1. Burner orifice clogged 2. Inlet gas pressure is too low 3. Burner orifice diameter is too small	1. Clean burner (see *Cleaning and Maintenance*, page 23) or replace burner orifice 2. Contact local natural gas company 3. Replace burner orifice
Delayed ignition burner	1. Manifold pressure is too low 2. Burner orifice clogged	1. Contact local natural gas company 2. Clean burner (see *Cleaning and Maintenance*, page 23) or replace burner orifice
Burner backfiring during combustion	1. Burner orifice is clogged or damaged 2. Damaged burner 3. Gas regulator defective	1. Clean burner (see *Cleaning and Maintenance*, page 23) or replace burner orifice 2. Replace damaged burner 3. Replace gas regulator
Slight smoke or odor during initial operation	1. Not enough air 2. Gas regulator defective 3. Residues from manufacturing processes and logs curing	1. Check burner for dirt and debris. If found, clean burner (see *Cleaning and Maintenance*, page 23) 2. Replace gas regulator 3. Problem will stop after a few hours of operation
Moisture/condensation noticed on windows	1. Not enough combustion/ventilation air	1. Refer to *Air for Combustion and Ventilation* requirements (page 5)
Heater produces a whistling noise when burner is lit	1. Turning control knob to HI position when burner is cold 2. Air in gas line 3. Air passageways on heater blocked 4. Dirty or partially clogged burner orifice	1. Turn control knob to LO position and let warm up for a minute 2. Operate burner until air is removed from line. Have gas line checked by local natural gas company 3. Observe minimum installation clearances (see pages 9-12) 4. Clean burner (see *Cleaning and Maintenance*, page 23) or replace burner orifice

Continued

102828

TROUBLE-SHOOTING

Continued

WARNING

If you smell gas
- **Shut off gas supply.**
- **Do not try to light any appliance.**
- **Do not touch any electrical switch; do not use any phone in your building.**
- **Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.**
- **If you cannot reach your gas supplier, call the fire department.**

IMPORTANT: Operating heater where impurities in air exist may create odors. Cleaning supplies, paint, paint remover, cigarette smoke, cements and glues, new carpet or textiles, etc., create fumes. These fumes may mix with combustion air and create odors. These odors will disappear over time.

OBSERVED PROBLEM	POSSIBLE CAUSE	REMEDY
Heater produces a clicking/ticking noise just after burner is lit or shut off	1. Metal expanding while heating or contracting while cooling	1. This is common with most heaters. If noise is excessive, contact qualified service person
Heater produces unwanted odors	1. Heater burning vapors from paint, hair spray, glues, cleaners, chemicals, new carpet, etc. (See *IMPORTANT* statement above) 2. Gas leak. **See Warning statement at top of page**	1. Open window and ventilate room. Stop using odor causing products while heater is running 2. Locate and correct all leaks (see *Checking Gas Connections*, page 17)
Heater shuts off in use (ODS operates)	1. Not enough fresh air is available 2. Low line pressure 3. ODS/pilot is partially clogged	1. Open window and/or door for ventilation 2. Contact local natural gas company 3. Clean ODS/pilot (see *Cleaning and Maintenance*, page 23)
Gas odor even when control knob is in OFF position	1. Gas leak. **See Warning statement at top of page** 2. Control valve defective	1. Locate and correct all leaks (see *Checking Gas Connections*, page 17) 2. Replace control valve
Gas odor during combustion	1. Foreign matter between control valve and burner 2. Gas leak. **See Warning statement at top of page**	1. Take apart gas tubing and remove foreign matter 2. Locate and correct all leaks (see *Checking Gas Connections*, page 17)

102828

TECHNICAL SERVICE

You may have further questions about installation, operation, or troubleshooting. If so, contact DESA International's Technical Service Department at 1-800-DESA LOG (1-800-337-2564).

SPECIFICATIONS

	24" Model
Btu (Variable)	20,000/39,000
Type Gas	Natural Gas Only
Ignition	Piezo
Manifold Pressure	3.5" W.C.
Inlet Gas Pressure (in. of water)	
Maximum	10.5"
Minimum*	5"
Shipping Weight	30 lbs.

* For the purpose of input adjustment

SERVICE HINTS

When gas pressure is too low

- pilot will not stay lit
- burners will have delayed ignition
- heater will not produce specified heat

When gas quality is bad

- pilot will not stay lit
- burners will produce flames and soot
- heater will backfire when lit

You may feel your gas pressure is too low or gas quality is bad. If so, contact your local natural gas supplier.

REPLACEMENT PARTS

Note: Use only original replacement parts. This will protect your warranty coverage for parts replaced under warranty.

Parts Under Warranty
Contact authorized dealers of this product. If they can't supply original replacement part(s), call DESA International's Technical Service Department at 1-800-DESA LOG (1-800-337-2564).

When calling DESA International, have ready
- your name
- your address
- model number of your heater
- how heater was malfunctioning
- type of gas used (propane or natural gas)
- purchase date

Usually, we will ask you to return the defective part to the factory.

Parts Not Under Warranty
Contact authorized dealers of this product. If they can't supply original replacement part(s), call DESA International's Parts Department at 1-800-972-7879 for referral information.

When calling DESA International, have ready
- model number of your heater
- the replacement part number

PARTS CENTRAL

These Parts Centrals are privately owned businesses. They have agreed to support our customer's needs by providing original replacement parts and accessories.

Baltimore Electric
1348 Dixwell Avenue
Hamden, CT 06514
1-800-397-7553
203-248-7553
Parts Department

Portable Heater Parts
342 N. County Rd. 400 East
Valparaiso, IN 46383
All States
219-462-7441
1-800-362-6951

FBD
P O Box 1096
Franklin, KY 42134
502-586-1922
1-800-654-8534

Four Flags Power Products
1115 Stateline Road
Niles, MI 49120
616-684-2697
Parts Only

Master Service Center
1184 Wilson NW
Walker, MI 49504
616-791-4760
1-800-446-1446

Washer Equipment Co.
1715 Main Street
Kansas City, MO 64108
KS, MO, AR
816-842-3911

East Coast Energy Products
833 Broadway
W. Long Branch, NJ 07764
908-870-8809
1-800-755-8809

Tarantin Tank Co.
P.O. Box 6129
Freehold, NJ 07728
908-780-9340
1-800-922-0724

Albany Ladder
1586-90 Central Avenue
Albany, NY 12205
NY, MA, VT
518-869-5335
1-800-354-7368

Dayton Hardware
P.O. Box 275
North Dayton Station
Dayton, OH 45404
All States
513-258-3721
OH 1-800-762-3426

Halco Enterprises
208 Carter Drive, Unit 21
West Chester, PA 19382
215-696-2670
1-800-368-0803

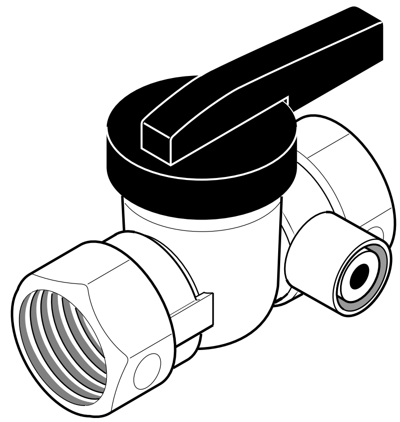
LA Porte's Parts & Service
2444 N. 5th Street
Hartsville, SC 29550
803-332-0191
Parts Department

Cans Unlimited, Inc.
P.O. Box 645
Taylor, SC 29687
All States
803-879-3009
1-800-845-5301

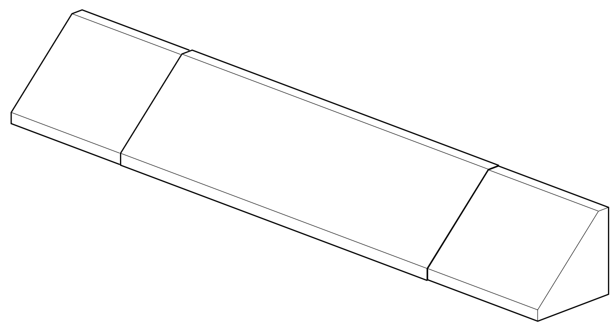
ACCESSORIES

Purchase these fireplace accessories from your local dealer. If they can not supply these accessories, call DESA International's Sales Department at 1-800-972-7879 for referral information. You can also write to the address listed on the back page of this manual.

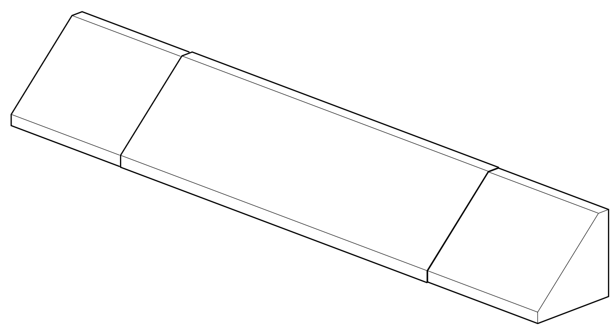
MANUAL SHUTOFF VALVE - GA5010
For all models. Manual shutoff valve with 1/8" NPT tap. Fits 1/2" NPT pipe.



BLACK FIREPLACE HOOD - GA6050
For all models. Helps deflect heat away from mantel or wall above fireplace.



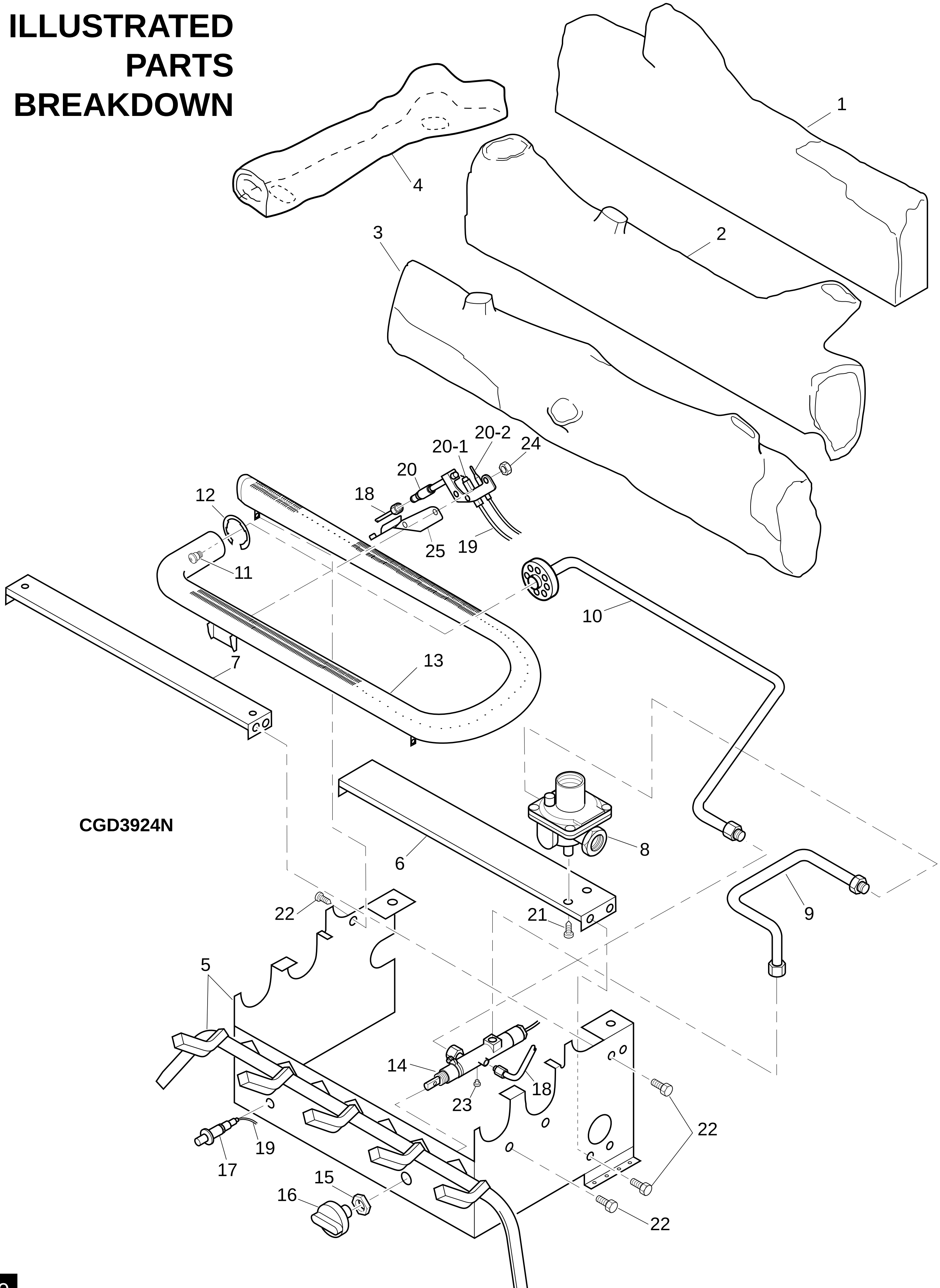
BRASS FIREPLACE HOOD - GA6052
For all models. Helps deflect heat away from mantel or wall above fireplace.



DAMPER CLAMP - GA6080
For variably controlled models. Permanently opens chimney flue damper for vented operation.

LAVA ROCK - GA6060
For all models. Order when additional rock is desired. (3 lb. bag)

ILLUSTRATED PARTS BREAKDOWN



102828

PARTS LIST

This list contains replaceable parts used in your heater. When ordering parts, follow the instructions listed under *Replacement Parts* on page 28 of this manual.

CGD3924N

KEY NO.	PART NUMBER	DESCRIPTION	QTY.
1	103008-01	Back Log (#1)	1
2	103009-01	Middle Log (#2)	1
3	103010-01	Front Log (#3)	1
4	103011-01	Crossover Log (#4)	1
5	102774-01BR	Painted Base Assembly	1
6	102844-01	Lower Bracket	1
7	102966-01	Upper Bracket	1
8	098867-11	Gas Regulator	1
9	102798-01	Inlet Tube	1
10	102779-01	Outlet Burner Tube	1
11	099056-16	Burner Orifice Injector	1
12	102843-01	Burner Clip	1
13	102772-01	Burner	1
14	102568-05	Control Valve	1
15	098508-01	Valve Retainer Nut	1
16	098354-01	Control Knob	1
17	102445-01	Piezo Ignitor	1
18	099387-08	Pilot Tube	1
19	098271-07	Ignitor Cable	
20	103042-01	ODS Pilot	1
20-1	099594-01	Ignitor Electrode	1
20-2	098593-01	Thermocouple	1
21	M11084-38	Regulator Screw	2
22	098304-03	Black Screw, PPH #8-18	9
23	098276-01	Hex Head Plug, 1/8 NPT	1
24	098249-01	Nut, M5	2
25	099553-01	Shield, Pilot	1
PARTS AVAILABLE — NOT SHOWN			
	100563-01	Warning Plate	1
	101055-02	Lighting Instructions Plate	1
	100565-01	Warning Plate Fastener	1
	100639-01	Caution Decal	1
	101449-04	Control Position Decal	1
	101137-02	Hardware Kit	1
	101416-18	Information Video	1
	GA6060	Lava Rock	1

WARRANTY INFORMATION

KEEP THIS WARRANTY

Model ______________________________

Serial No. ______________________________

Date Purchased ______________________________

Always specify model and serial numbers when communicating with the factory.

We reserve the right to amend these specifications at any time without notice. The only warranty applicable is our standard written warranty. We make no other warranty, expressed or implied.

LIMITED WARRANTY
COMFORT GLOW VENT-FREE NATURAL GAS LOG HEATERS

DESA International warrants this product to be free from defects in materials and components for one (1) year from the date of first purchase, provided that the product has been properly installed, operated and maintained in accordance with all applicable instructions. To make a claim under this warranty the Bill of Sale or cancelled check must be presented.

This warranty is extended only to the original retail purchaser. This warranty covers the cost of part(s) required to restore this heater to proper operating condition and an allowance for labor when provided by a DESA Authorized Service Center. Warranty part(s) MUST be obtained through authorized dealers of this product and/or DESA International who will provide original factory replacement parts. Failure to use original factory replacement parts voids this warranty. The heater MUST be installed by a qualified installer in accordance with all local codes and instructions furnished with the unit.

This warranty does not apply to parts that are not in original condition because of normal wear and tear, or parts that fail or become damaged as a result of misuse, accidents, lack of proper maintenance or defects caused by improper installation. Travel, diagnostic cost, labor, transportation and any and all such other costs related to repairing a defective heater will be the responsibility of the owner.

TO THE FULL EXTENT ALLOWED BY THE LAW OF THE JURISDICTION THAT GOVERNS THE SALE OF THE PRODUCT; THIS EXPRESS WARRANTY EXCLUDES ANY AND ALL OTHER EXPRESSED WARRANTIES AND LIMITS THE DURATION OF ANY AND ALL IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE TO ONE (1) YEAR ON ALL COMPONENTS FROM THE DATE OF FIRST PURCHASE; AND DESA INTERNATIONAL'S LIABILITY IS HEREBY LIMITED TO THE PURCHASE PRICE OF THE PRODUCT AND DESA INTERNATIONAL SHALL NOT BE LIABLE FOR ANY OTHER DAMAGES WHATSOEVER INCLUDING INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Some states do not allow a limitation on how long an implied warranty lasts or an exclusion or limitation of incidental or consequential damages, so the above limitation on implied warranties, or exclusion or limitation on damages may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

For information about this warranty write:

DESA
INTERNATIONAL
2701 Industrial Drive
P.O. Box 90004
Bowling Green, KY 42102-9004

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